



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/535,297	05/17/2005	Ewald Frasl	AT 020067	5849
24737	7590	10/25/2006	EXAMINER	
PHILIPS INTELLECTUAL PROPERTY & STANDARDS			PHILLIPS, FORREST M	
P.O. BOX 3001			ART UNIT	PAPER NUMBER
BRIARCLIFF MANOR, NY 10510			2837	

DATE MAILED: 10/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/535,297	FRASL, EWALD
	Examiner Forrest M. Phillips	Art Unit 2837

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) This action is FINAL.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-11 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-11 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 17 May 2005 is/are: a) accepted or b) objected to by the Examiner.
 

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 10/12/06.
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_.
- 5) Notice of Informal Patent Application
- 6) Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,2,4,6-7 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Frasl (US2001/0010725).

With respect to claim 1 Frasl discloses a membrane for an electro acoustic transducer which membrane is designed to be capable of vibration with respect to a membrane axis and which has a first membrane side and a second membrane side and which has a middle area, wherein a central cup shaped depression (21 in figure 5) is present in the region of the membrane axis, which depression is bounded by a cup bottom wall and is open towards the first membranes side wherein the membrane has stiffening grooves (34 in figure 5) in its middle area which stiffening grooves extend substantially parallel to radial directions and wherein at least two stiffening grooves of said stiffening grooves extend up to the depression.

In figure 5 the surface shown is the first side of the membrane the cup shaped depression being opened towards, the bottom surface is the second side, wherein the grooves 34 are opened towards the bottom.

With respect to claim 2 Frasl further discloses wherein all stiffening grooves are open towards the second membrane side (refer to figure 5).

With respect to claim 4 Frasl further discloses wherein the stiffening grooves (34 in figure 5) are angularly regularly spaced in circumferential direction (see figure 5).

With respect to claim 6 Frasl further discloses wherein the stiffening grooves extend with the ends facing away from the depression up to an angular intermediate portion (22 in figure 5).

With respect to claim 7 Frasl further discloses wherin the stiffening grooves extend linearly (refer to figure 5).

With respect to claim 11 Frasl discloses an electroacoustic transducer having the membrane of claim 1 (title).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Frasl in view of Mallina (US1870417).

With respect to claim 5 Frasl discloses the membrane of claim 1.

Frasl does not disclose wherein the stiffening grooves are arranged in at least two groups of stiffening grooves, such that the stiffening grooves of a first group extend

up to the depression and the stiffening grooves of a second group terminate before reaching the depression.

Mallina discloses stiffening members (2 in figures 2 and 4) arranged in at least two groups wherein the members of a first group extend up to the depression and the members of a second group terminate before reaching the depression.

At the time of the invention it would have been obvious to one of ordinary skill in the art to combine the teachings of Mallina to have differing lengths of stiffening members with the stiffening grooves of Frasl's membrane to allow more stiffening members to be included in the membrane.

Claims 3 and 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frasl in view of Japanese patent 402057097 hereinafter the Japanese patent .

With respect to claim 3 Frasl discloses The membrance according to claim 1.

Frasl does not disclose wherein the depression has a connecting channel which connecting channel is open towards the second membrane side and leads into the two stiffening grooves that extend up to the depression.

The Japanese patent however discloses stiffening grooves that extend up to and through the center of the membrane. The connecting channel of the depression is just an extension of the stiffening grooves connecting two together to form one stiffening groove. The Japanese patent demonstrates stiffening grooves which extend form one side of the membrane to the other (refer to figures 3 and 6).

At the time of the invention it would have been obvious to one of ordinary skill in the art to combine the teachings of the Japanese patent to have stiffening grooves

which extend from one side of the membrane to the other with the membrane of Frasl to provide an increase in the stiffening of the depression.

With respect to claim 8 Frasl discloses the membrane of claim 1.

Frasl does not disclose wherein the stiffening grooves each have groove sidewalls which are substantially parallel to one another.

The Japanese patent discloses stiffening grooves with substantially parallel sidewalls (figure 6).

At the time of the invention it would have been obvious to one of ordinary skill in the art to combine the proven stiffen groove shape of the Japanese patent with the membrane of Frasl to provide a high degree of rigidity.

With respect to claim 9 the Japanese patent further discloses wherein the stiffening grooves have a substantially U-shaped cross section (refer to figure 6).

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Frasl in view of the Japanese patent as applied to claim 3 above, and further in view of Hoffman (US1040294).

Frasl in view of the Japanese patent discloses the membrane of claim 3, but do not demonstrate that the connecting channel has a smaller cross-section than that of the stiffening grooves.

Hoffman however teaches the use of grooves in a membrane which are smaller in cross section in the center of the membrane.

At the time of the invention it would have been obvious to one of ordinary skill in the art to combine the teachings of Hoffman to have the grooves have a smaller cross sectional area toward the center of a membrane with the membrane of Frasl in view of the Japanese patent for the purpose of having a stiffer central section allowing for better sound reproduction.

***Conclusion***

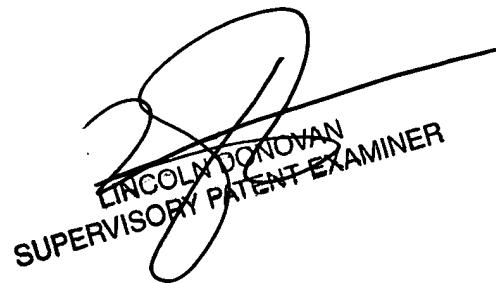
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Usuki (US6920957); and Nakaso (US6594372).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Forrest M. Phillips whose telephone number is 5712729020. The examiner can normally be reached on Monday through Friday 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lincoln Donovan can be reached on 5712721988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

FP



A handwritten signature in black ink, appearing to read "LINCOLN DONOVAN", is overlaid by a large, stylized, handwritten signature that appears to read "SUPERVISORY PATENT EXAMINER". The two signatures are intertwined and written in a cursive, fluid style.